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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,997	09/22/2003	Richard Jonathan Berman	S01.12-0986/STL 11300.00	1928
27365	7590	04/04/2006	EXAMINER	
SEAGATE TECHNOLOGY LLC C/O WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 - INTERNATIONAL CENTRE 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			CHAUDHRY, SAEED T	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,997

Applicant(s)

BERMAN ET AL.

Examiner

Saeed T. Chaudhry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 20 and 27-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35-40 is/are allowed.
- 6) ☒ Claim(s) 1-9, 20 and 27-34 is/are rejected.
- 7) ☒ Claim(s) 10, 11 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/17/06.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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DETAILED ACTION

Applicant's amendments and remarks filed January 17, 2006 have been acknowledged by the examiner and entered. Claims 12-19 and 21-26 have been canceled and claims 1-11, 20 and 27-40 are pending in this application for consideration.

Claim 34 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 11. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (c) he has abandoned the invention.
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
- (f) he did not himself invent the subject matter sought to be patented.

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

Claims 1-8, 20, 27-32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagi et al.

Yanagi et al (4,893,320) disclose an apparatus comprising an inner tank 1 for first liquid; an external tank 4 for second liquid; a ultrasonic wave oscillator 601 attached to the external tank, wherein second liquid in the external tank is acoustically coupled to the first liquid in the inner tank (see Fig. 2).

An apparatus for counting the particles attached onto the surfaces of an object shown in FIG. 1 includes an external tank 1, an internal tank disposed within the external tank 1 for accommodating a measuring liquid 3 into which a sample 2 is immersed to whose surfaces are attached particles to be measured, a driving means 5 for rotating the internal tank 4, a sonic wave generating means 6 provided on the external tank for generating sonic waves of a plurality of different frequencies including ultrasonic waves and megasonic waves, and a measuring means 7 for counting particles contained in the measuring liquid 3 which have been removed from the sample 2 by the sonic waves generated from the sonic wave generating means 6, the measuring means 7 being provided in such a manner that it can be connected to the internal tank 4 in an airtight fashion (see col. 3, lines 25-35). The container 401 is made of quartz, glass, silicon, Teflon, SUS or polymeric polypropylene (see col. 3, lines 57-58). In addition, the gap between the external tank 1 and the internal tank 4 is filled with a sonic wave transferring medium 605 such as water or other liquid which transfers sonic waves well (see col. 5, lines 28-31).

Yanagi et al do not disclose to remove dissolved air from the water, since the air and nitrogen are inherently dissolved in the water. Therefore, Yanagi et al anticipate the claimed

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apparatus. Furthermore, the tanks are airtight. Therefore, the gas concentration is constant during the application. Yanagi et al disclosed apparatus capable of having different air concentration liquid, different temperature of liquid and different flow rate in the tanks. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 1-4, 6-9, 20 27-30, 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al.

Tanaka et al (6,138,698) disclose an apparatus having an inner tank 6 for containing first liquid; an outer tank 2 for containing second liquid; and ultrasonic generators 3, wherein an object W is immersed in the inner tank and second liquid is acoustically coupled to the first liquid. The inner and outer tanks are open top end (see col. 3, lines 27-45 and fig. 1).

Pure water P is supplied from the pure water source 40 into the liquid storing region 2a of the intermediate tank 2 to store an amount of pure water P that enables a bottom part of the inner tank 6 can be immersed in the pure water P contained in the liquid storing region 2a (see col. 5, lines 29-33). A cleaning liquid circulating circuit 74 is connected to the inner tank 6 and the outer tank 7 to circulate a cleaning liquid through the inner tank 6 and the outer tank 7 while the ultrasonic cleaning apparatus is in a cleaning operation for cleaning wafers W. A pump 76, a damper 77, a heater 78, a heat exchanger 79 and a filter 80 are placed and arranged in that order in the cleaning liquid circulating circuit 74 (see col. 7, line 60 to col. 8, line 44).

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Tanaka et al do not disclose to remove dissolved air from the water, since the air and nitrogen are inherently dissolved in the water. Therefore, Tanaka et al anticipate the claimed apparatus. Tanaka et al disclosed apparatus capable of having different air or nitrogen concentration liquid, different temperature of liquid, different liquid and different flow rate in the tanks. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Claims 1-5, 7-9, 20, 27-32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al.

Saito et al (JP-11008214) disclose a cleaning bath 9 filled with cleaning water in which an object to be cleaned, and a substrate 10 is immersed. During the cleaning operation, the cleaning water flows over the cleaning bath 9 at a constant rate. A megasonic diaphragm 7 is disposed in the center on the bottom of an external tank 11 from which pure water propagates indirectly to the cleaning water in the cleaning bath 9 during the water cleaning operation, thus imparting megasonic oscillation to the cleaning water in the cleaning bath 9. In this way, gas can be dissolved into the pure water fed to the cleaning bath 9 at all times during the cleaning operation of a wafer, and the concentration thereof can be constantly monitored. Accordingly, the concentration of dissolved gas can be kept constant.

Saito et al disclosed apparatus capable of having different air or nitrogen concentration liquid, different temperature of liquid, different liquids and different flow rate in the tanks. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather

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than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

“[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

Allowable Subject Matter

Claims 35-40 are allowed over the cited prior art.

Claims 10-11 and 33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Reasons For Allowable Subject Matter

The following is an Examiner's statement of reasons for the indication of allowable subject matter:

None of the prior art discloses or suggests an apparatus wherein the inner vessel having a flow rate, which transfer the object from first end to the second end while generating acoustical energy.

Response to Applicant's Arguments

Applicant argued that Yanagi et al, Tanaka et al or Saito et al fail to teach or suggest that the first liquid has a first dissolved gas concentration of a first gas and second liquid has a second gas concentration of a second gas, the first dissolved gas concentration is different than the second dissolved gas concentration.

This argument is not persuasive because Yanagi et al, Tanaka et al and Saito apparatuses are capable of having different concentrations in the first and second liquid tanks. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than

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function. First liquid and second liquid having different concentrations is a function, which is not different than the Yanagi et al apparatus.

Applicant's arguments filed January 17, 2006 have been fully considered but they are not persuasive.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed T. Chaudhry whose telephone number is (571) 272-1298. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Barr, can be reached on (571)-272-1414. The fax phone number for non-final is (703)-872-9306.

When filing a FAX in Gp 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Saeed T. Chaudhry
Patent Examiner



MICHAEL BARR
SUPERVISORY PATENT EXAMINER